IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A pattern inspection apparatus comprising:

a stage on which a plate to be inspected including a pattern formed on the plate is laid;

a light source which irradiates the plate to be inspected with light;

a photoelectric device which photoelectrically converts the optical image of the pattern;

a detected pattern data generator which generates detected pattern data regarding the pattern based on a signal obtained by the photoelectric device;

a reference pattern data generator which generates reference pattern data from designed data regarding the pattern, or stores the detected pattern data obtained by the photoelectric device;

a comparator which compares the detected pattern data with the reference pattern data;

a light intensity sensor which detects a light intensity of the light;

a barometric pressure sensor which detects a barometric pressure in the pattern inspection apparatus;

a status detector which senses that at least one of the light intensity and the barometric pressure deviates from a predetermined range;

a data memory [[in]] which stores the detected pattern data and the reference pattern data regarding corresponding to the detected pattern data at the same a point of time as a time when the status detector detects that the at least one of the light intensity and the barometric pressure deviate from the predetermined ranges are stored in synchronization with position data on the plate to be inspected and a detected value of the at least one of the light intensity and the barometric pressure deviating from the predetermined range; [[and]]

an output device which outputs the detected pattern data, the reference pattern data, and the detected value of the at least one of the light intensity and the barometric pressure stored in the data memory;

a signal intensity profile analysis part which analyzes a signal intensity profile of the detected pattern data at an abnormal status time;

a re-inspection control part which re-inspects at least a part on the plate to be inspected based on an analysis result of the signal intensity profile analysis part; and

an abnormal status notification part which notifies the analysis result,

wherein the signal intensity profile analysis part compares signal gradients of horizontal and vertical direction components of a pattern edge part of the detected pattern data with a first predetermined standard value, and an intensity and fluctuation of a signal of a pattern bright part with a second predetermined standard value.

Claim 2 (Original): The pattern inspection apparatus according to claim 1, further comprising a focus sensor which detects a focus abnormal status of the illumination and imaging optics.

Claim 3 (Original): The pattern inspection apparatus according to claim 1, further comprising a vibration sensor which detects vibration of the stage for the plate to be inspected.

Claims 4-5 (Canceled).

Claim 6 (Currently Amended): The pattern inspection apparatus according to claim [[5]] 1, wherein the signal intensity profile analysis part compares the signal gradients of the

horizontal and vertical directions with respect to the pattern edge part of the detected pattern

data, and judges that vibration of the stage is generated, when a difference between the signal

gradients is not less than the first predetermined standard value.

Claim 7 (Currently Amended): The pattern inspection apparatus according to claim

[[5]] 1, wherein the signal intensity profile analysis part compares the signal gradients of

different diagonal directions of a pattern corner part of the detected pattern data, and judges

that vibration of the stage is generated, when a difference between the signal gradients is not

less than the predetermined standard value.

Claim 8 (Currently Amended): The pattern inspection apparatus according to claim 1,

wherein the comparator stores the detected pattern data and the reference pattern data

regarding corresponding to the detected pattern data by the predetermined number of times,

when the same abnormal status is detected by the predetermined number of times in a first

predetermined time, and stops storage into the data memory with respect to the same

abnormal status until a second predetermined time elapses.

Claim 9 (Withdrawn): A pattern inspection apparatus comprising:

a stage on which a plate to be inspected including a pattern formed on the plate is laid;

an electron gun which generates electron beams;

an electron optics which irradiates the plate to be inspected with the electron beams;

a secondary electron detector which detects secondary electrons generated from the

plate to be inspected;

a detected pattern data generator which generates detected pattern data regarding the

pattern based on a signal obtained by the secondary electron detector;

a reference pattern data generator which generates reference pattern data from designed data concerning the pattern, or stores the detected pattern data obtained by the photoelectric device;

a comparator which compares the detected pattern data with the reference pattern data;

a dose sensor which detects a dose of the electron beams;

a barometric pressure sensor which detects a barometric pressure in the pattern inspection apparatus;

a status detector which detects that at least one of the dose of the electron beams and the barometric pressure deviates from a predetermined range;

a data memory in which the detected pattern data and the reference pattern data regarding the detected pattern data at the same time as a time when the status detector detects that the at least one of the dose of the electron beams and the barometric pressure deviates from the predetermined range are stored in synchronization with position data on the plate to be inspected and the detected value of the at least one of the dose of the electron beams and the barometric pressure deviating from the predetermined range; and

an output device which outputs the detected pattern data, the reference pattern data, and the detected value of the at least one of the dose of the electron beams and the barometric pressure stored in the data memory.

Claim 10 (Withdrawn): The pattern inspection apparatus according to claim 9, further comprising a focus sensor which detects a focus abnormal status of the electron optics.

Claim 11 (Withdrawn): The pattern inspection apparatus according to claim 9, further comprising a vibration sensor which detects vibration of the stage for the plate to be inspected.

Claim 12 (Withdrawn): The pattern inspection apparatus according to claim 9, further comprising: a signal intensity profile analysis part which analyzes a signal intensity profile of the detected pattern data at an abnormal status time; a re-inspection control part which controls to re-inspect at least a part on the plate to be inspected based on an analysis result of the profile analysis part; and an abnormal status notification part which notifies the analysis result.

Claim 13 (Withdrawn): The pattern inspection apparatus according to claim 12, wherein the profile analysis part compares signal gradients of horizontal and vertical direction components of a pattern edge part of the detected pattern data with a first predetermined standard value, and an intensity and fluctuation of a signal of a pattern bright part with a second predetermined standard value.

Claim 14 (Withdrawn): The pattern inspection apparatus according to claim 13, wherein the profile analysis part compares the signal gradients of the horizontal and vertical directions with respect to the pattern edge part of the detected pattern data, and judges that vibration of the stage is generated, when a difference between the signal gradients is not less than the first predetermined standard value.

Claim 15 (Withdrawn): The pattern inspection apparatus according to claim 13, wherein the signal intensity profile analysis part compares the signal gradients of different

diagonal directions of a pattern corner part of the detected pattern data, and judges that

vibration of the stage is generated, when a difference between the signal gradients is not less

than the first predetermined standard value.

Claim 16 (Withdrawn): The pattern inspection apparatus according to claim 9,

wherein the comparator stores the detected pattern data and the reference pattern data

regarding the detected pattern data the predetermined number of times, when the same

abnormal status is detected the predetermined number of times in a first predetermined time,

and stops storage into the data memory with respect to the same abnormal status until a

second predetermined time elapses.

Claim 17 (Withdrawn): The pattern inspection apparatus according to claim 9, further

comprising a magnetic field sensor which senses a magnetic field in the pattern inspection

apparatus.